

Var. *megasperma* (PLATES 311, 312), although originally put out as a species and so maintained by Schulz, clearly passes into var. *orthocarpa* and in fruit alone is scarcely separable from the more boreal var. *brachycarpa*. It differs from the latter in its greater size and more numerous leaves and is, doubtless, a Newfoundland and Gulf of St. Lawrence representative of the Greenland plant. Closely simulating var. *megasperma* but even more leafy is the newly proposed *D. laurentiana* (PLATES 304, 305). This plant, localized in much the same area as var. *megasperma*, differs from it, not only in its greater leafiness but in the abundant simple spreading pubescence of the lower internodes. Eventually it may seem right to treat it as another extreme variety of *D. glabella*. If, however, we abandon the character of pubescence in the classification of *Draba*, the whole structure must collapse. This dependence on the character of the trichomes is one of the least insecure reliances in the group; and, for the present, I am hopefully clinging to it!

One more name must be noted. This is *Draba megasperma*, var. *leiocarpa* O. E. Schulz, l. c. 277, based on *Collins & Fernald*, no. 93, from Bic, Quebec (PLATE 315, FIGS. 1 and 5). This material was originally included in the mixed *D. arabisans*, var. *orthocarpa*, but it differs from the cited type (PLATE 309) in actually having all the significant characters of *D. arabisans* with plane siliques: the long pedicels, long style and the smooth (not veiny) surfaces of the very thin and acute siliques. It does not belong with *D. megasperma* (PLATES 311, 312), which has the obtuse siliques much broader, on shorter and thicker pedicels and with nearly obsolete style, the less flattened siliques with veiny or rugose surfaces.

(To be continued)

NOTES ON THE FLORA OF TENNESSEE: DIOSCOREA

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FROM the time of publication of Gray's Manual, first edition, until the appearance of Bartlett's revision¹ of *Dioscorea* in 1910 all the native yams of the eastern United States were grouped under one species, *D. villosa* L. Bartlett recognized five species of which three

¹ Bartlett, H. H., The Source of the Drug Dioscorea, with a Consideration of the Dioscoreaceae found in the United States. Bureau of Plant Industry, Bull. no. 189 (1910).

are of interest in a study of the Tennessee flora. The other two, which he described as new, are restricted to the southeastern coastal States.

Bartlett quite properly separated the widely dispersed northern species from the Alleghanian species. Unfortunately, however, he rejected the name *D. villosa* and applied *D. paniculata* to the northern species, while he recognized two species in the Appalachian region where there is probably only one. These two are described as alike in having verticillate leaves and in having much larger fruits than the widespread northern plant. According to Bartlett there is a form restricted to the mountains which has coarse, knotted, much-branched, rootstocks and leaves which are glaucous beneath, while a more southern lowland form differs from it in having relatively unbranched rootstocks and green leaves. The former he identifies with *D. glauca* of Muhlenberg's Catalogue and the latter with *D. quaternata* (Walt.) Gmel. The distribution-map which accompanies the description of the latter species shows it to be a plant, not of the lowlands, but of the foothills, which belong to the Alleghanian floral region. Study of specimens from all parts of this region fail to show any great differences in leaf surface. The writer has not had opportunity to examine many rootstocks, but the fruits and seeds were alike in all specimens which had them. It seems better to adopt the conservative treatment of all these Alleghanian plants as one species, the name of which is *D. quaternata*.

Walter¹ described two species with verticillate leaves, *Anonymos* (Dioscoreae affinis ?) *quaternat.*, and *Anonymos* (Dioscoreae affinis ?) *quinat.* The latter has frequently been cited as a synonym of *D. villosa*. It is probably the same as *D. quaternata* which usually has more than four leaves in a whorl.

Blake has shown that the Linnean species *D. villosa* need not be rejected, as there is a specimen in the Clayton herbarium which fixes its identity.²

The two well-marked species of *Dioscorea* which appear in our manuals under *D. villosa* may be separated as follows:

DIOSCOREA QUATERNATA (Walt.) Gmel. Syst. 581 (1796). *Anonymos quaternat.* Walt. Fl. Car. 246 (1788). *D. glauca* Muhl. Cat. 92 (1813) as defined by Bartlett l. c. 13 (1910). *D. villosa*, var. *glabra* C. G. Lloyd, in King & Lloyd, Suppl. Am. Dispens. 81 (1880). Rootstock thick and much branched; stem twining, glabrous; lower leaves

¹ Walter, Flor. Carolin., 246 (1788).

² Blake, S. F., Notes on the Clayton Herbarium, RHODORA xx. 48 (1918).

verticillate, the upper in pairs or alternate, blades of the larger ones often 10 cm. long, petiole often villous at the junction with the blade, blade more or less puberulent beneath, or glabrous, glaucous on lower surface, usually repand; inflorescences one in the axil of each leaf; ripe capsules 20–30 mm. long; seeds, exclusive of wing, 5–6.5 mm. broad.—Pennsylvania to western Florida, Missouri, Arkansas and Oklahoma. It has been found in all parts of Tennessee. The following is a representative, but not a complete list of stations. Woods, rocky ridge, Cades Cove, June 15, 1928, *Anderson & Jennison*; White Cliff Springs, Monroe County, June 29, 1890, *Scribner*; along Clinch River between Tate and Tazewell, May 12, 1929, *Hesler & Jennison*; Knoxville, *Scribner*, no. 7345; ledges, Lookout Mountain, Chattanooga, May 22, 1911, *Churchill*; sandy woods along creek, Daysville, *Jennison, Hesler & Anderson*, no. 1408; Cowan, July 14, 1867, *Gattinger*; Kingston Springs, *Svenson*, no. 280; Haywood County, June 6, 1893, *Bain*.

DIOSCOREA VILLOSA L. Sp. Pl. ii. 1033 (1753). *D. paniculata* Michx. Fl. Bor.-Am. ii. 239 (1803). Rootstock little branched (Bartlett); stem twining; none of the leaves verticillate, blades rarely more than 8 cm. long, densely pubescent on lower surface, petiole glabrous; inflorescence a small panicle or raceme, one in the axil of each leaf; ripe capsule 15–20 mm. long; seeds, exclusive of wing, 3–4.5 (usually 4) mm. broad.—Connecticut to New Jersey, west to Minnesota and Oklahoma.

Var. *glabrifolia* (Bartlett) Stone, Pl. So. N. J. 358 (1912) (*D. paniculata*, var. *glabrifolia* Bartlett, l. c. 15 (1910)), has glabrous leaves, otherwise as in the species. One specimen from Haywood County, Tennessee, *Bain*, no. 321, is cited by Bartlett. This specimen has no capsules or lower leaves by which it can be positively identified. It bears the same data as a specimen of *D. quaternata* from the same region, and the same number as one of *D. quaternata* collected the year before. It is probable that this is a fragmentary duplicate of one of these specimens, and that *D. villosa* has not been collected in Tennessee.

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SOME INADEQUATELY CHARACTERIZED SPECIES OF GEORGE VASEY

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In 1907, the late Theodor Holm clearly described a new grass as *Glyceria paupercula* Holm in Fedde, Repert. iii. 337 (1907), stating, correctly, that "It is a member of the section *Atropis* Rupr." A definite type was cited and afterward an exquisite heliotype plate